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(a) transforming a yeast organism with an expression vehicle comprising a promoter sequence for yeast alpha factor operably connected to a DNA sequence encoding a protein heterologous to the yeast organism;

(b) culturing the transformed organism; and

(c) recovering the protein from the culture.--

--48. A process for obtaining a protein heterologous to yeast as a product of yeast expression, which process comprises:

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(a) transforming a yeast organism with an expression vehicle comprising a DNA sequence encoding a pre-pro peptide of yeast alpha factor operably connected in translation reading frame to a DNA sequence encoding a protein heterologous to the yeast organism;

(b) culturing the transformed organism; and

(c) recovering the protein from the culture.--

--49. A process for obtaining a protein heterologous to yeast as a product of yeast expression, processing and secretion, which process comprises:

(a) transforming a yeast organism with an expression vehicle comprising a DNA sequence encoding a pre-pro peptide of yeast alpha factor operably connected in translation reading frame to a DNA sequence encoding a protein heterologous to the yeast organism;

(b) culturing the transformed organism; and

(c) recovering the protein from the culture.--

---50. A process for secreting a protein heterologous to yeast into the supporting medium, which process comprises:

(a) transforming a yeast organism with an expression vehicle comprising a DNA sequence encoding a pre-pro peptide of yeast alpha factor operably connected in translation reading frame to a DNA sequence encoding a protein heterologous to the yeast organism;

(b) culturing the transformed organism; and

(c) recovering the protein from the culture.---

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--51. The process of Claim 50, wherein said DNA sequences are under the control of the alpha factor promoter.--

--52. A yeast expression vehicle comprising a DNA sequence of the promoter for yeast alpha factor operably connected to a DNA sequence encoding a protein heterologous to the yeast organism.--

---53. The expression vehicle of Claim 52, further comprising a DNA sequence encoding a pre-pro peptide of yeast alpha factor operably linked in translation reading frame upstream to the DNA sequence encoding a mature protein heterologous to the yeast organism.--

--54. A yeast expression vehicle comprising a DNA sequence encoding a pre-pro peptide of yeast alpha factor operably linked in translation reading frame to a DNA sequence encoding a mature protein heterologous to the yeast organism.--

--55. The expression vehicle of Claim 52, wherein the DNA encoding the heterologous protein encodes a protein selected from the group consisting of human interferon, bovine interferon, tissue plasminogen activator, and rennin.--

--56. The expression vehicle of Claim 53, wherein the DNA encoding the heterologous protein encodes a protein selected from the group consisting of human interferon, bovine interferon, tissue plasminogen activator, and rennin.--

--57. The expression vehicle of Claim 54, wherein the DNA encoding the heterologous protein encodes a protein selected from the group consisting of human interferon, bovine interferon, tissue plasminogen activator, and rennin.--

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--58. A yeast organism transformed by the expression vehicle of Claim 52.--

--59. A yeast organism transformed by the expression vehicle of Claim 53.--

--60. A yeast organism transformed by the expression vehicle of Claim 54.--

--61. The protein produced by the process of Claim 47.--

--62. The protein produced by the process of Claim 48.--

--63. The protein produced by the process of Claim 49.--

--64. The protein produced by the process of Claim 50.--

REMARKS

Claims 47-64 are presented herein for examination.

All pending claims are canceled without prejudice to file a continuing application directed thereto.

Claims 47-64 are based on, and supported by, the claims that were pending in U.S. Application Serial. No. 06/488,323, filed April 25, 1983, which is the first application upon which the present application claims priority.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

For the Examiner's convenience, a clean copy of the currently pending claims is attached hereto.